

shadows that magnificent achievement reported by Gordon-Taylor<sup>4</sup> using radical mastectomy alone, in which his ten-year survival rates were 84% of stage-I cases and 29% of stage-II.

Although morbid sequelae are the bugbear of radical mastectomy, this operation has no monopoly in this respect. Oedema of the arm will occur, though less often, after deep x-ray therapy alone and not uncommonly appears before any treatment has been given at all. Furthermore, if a patient who has had a radical mastectomy performed and has subsequently received x-ray therapy is asked which of these two methods of treatment upset her the more, she will nearly always say x-ray therapy, and that quite emphatically. What modern statistical research has done is to shake surgeons out of a certain complacency about the results which they are entitled to expect from the operation of radical mastectomy. It has revealed alternative methods of treatment in a favourable light and has created a more eclectic attitude towards the problem. The days are gone when radical mastectomy is prescribed wholesale for all early cases of carcinoma of the breast.

Two questions need to be answered. First, is there a stage in many cases of cancer of the breast when, apart perhaps from a few stray cells which may lie for ever dormant within the embrace of the body defences, the growth is confined to the breast and to the glands in the axilla? Secondly, is the proportion of these cases sufficiently large to justify the risks of unpleasant sequelae in selected instances in order to cure them? If the answer to these two questions is yes—and it is so in the minds of many reasonable and experienced workers—then radical mastectomy still has a place, even if a limited place, in the treatment of cancer of the breast.

Perhaps long before this difference of opinion is settled its relevance will be as obscure as that of the humoral and Brunonian disputes of long ago. Neither surgery nor x-ray therapy will be the final answer in the treatment of this disease. Increasingly our hopes are set on the work of the endocrinologist, the virologist, and the experimental pathologist. In a paper at page 796 of this issue of the *Journal* Drs. B. A. Stoll and Frank Ellis review the effect of oestrogen therapy on pulmonary metastases. These workers demonstrate statistically what has been the universal impression, that in women well past the menopause the administration of oestrogens may produce a striking improvement in pulmonary deposits. Although the beneficial effects are only temporary, this palliation may be prolonged for some years. The increasingly favourable reports which are

coming in demonstrate the effectiveness of these materials in some cases of advanced cancer, and are a further pointer to the direction in which future investigation will lie. In the meantime a willingness to understand and to use all the weapons that are to hand, clumsy though they may be, and a freedom from prejudice in favour of any exclusive or uncompromising practice, will serve our patients best.

## SMOKELESS ZONES

In 1935, Charles Gandy, a Manchester barrister, proposed the principle of smokeless areas as a method of reducing smoke pollution in our industrial towns. The National Smoke Abatement Society, of which he was chairman for many years, approached the Manchester Public Health Committee, which in consequence caused the central area of the city to be surveyed in 1938 as a preliminary step to the creation of a smokeless zone. The outbreak of war held up this scheme, and it so happened that the area was heavily damaged by air attack. After the war the area, 105 acres in extent, was again surveyed, and it was found that the premises within it, consisting mainly of offices and shops and only a few dwelling houses, had more than 2,000 open fireplaces, most of which were fuelled by bituminous coal. The heating system of many of the buildings had already been modernized, and coal had been replaced by electricity, gas, or coke. This central area was therefore deemed to be suitable for an experimental smokeless zone.

There are no statutory powers of general application for the creation of smokeless zones, and the Manchester City Council had to obtain the necessary power, which it did by the Manchester Corporation Act, 1946. This pioneer legislation empowered the city council, among other things, to create a central smokeless zone, and made provision for the creation of other unspecified smokeless zones within the city boundary, subject to conditions including the approval of the appropriate Ministry. The central zone came into being on May 1, 1952.

Subsequently, some 14 towns obtained similar powers by means of local Acts, and other Acts are pending—for example, for the City of London. The City of Coventry created the first central smokeless zone of 30 acres on March 1, 1951, by virtue of its Corporation Act, 1948. In order to establish a

<sup>1</sup> Brown, C. M., *Med. Offr.*, 1953, **90**, 8.

<sup>2</sup> Wade, A., *Smokeless Air*, 1953, **87**, 17.

<sup>3</sup> Goodman, N., Lane, R. E., and Rampling, S. B., *British Medical Journal*, 1953, **2**, 237.

<sup>4</sup> Waller, R. E., *Brit. J. Cancer*, 1952, **6**, 8.

<sup>5</sup> Doll, R., *British Medical Journal*, 1953, **2**, 521 and 585.

<sup>6</sup> Clemo, G. R., *ibid.*, 1953, **2**, 670.

smokeless zone in a developed area a local authority must proceed by private Bill—an expensive and lengthy procedure. A model clause for inclusion in private Bills for this purpose has been prepared by a committee of Parliament, and it would appear that the time is now ripe for supplementary legislation to permit any local authority to propose smokeless zones and so avoid the heavy expense of promoting private Bills. It is an expense contemplated by large authorities with proper hesitation, and an impossible burden on small authorities with meagre resources.

In a smokeless zone the emission of smoke from any building therein is prohibited and there are prescribed penalties for breach of the order. Smoke includes the visible and tangible products of incomplete combustion; it does not include deleterious gases such as sulphur dioxide. Protection is given in most local Acts against unreasonable action by local authorities, and local authorities are always required to contribute to the expenses incurred in making premises smokeless. There is no control over railway locomotives or of some mining processes—a freedom which is much abused.

The creation of a smokeless zone is not without its difficulties. First, it is essential to obtain the support of public opinion. Secondly, persuasion and diplomacy are required to convince owners and tenants of premises within the proposed zone that it will be a good thing for the community and themselves. Thirdly, expert advice must be freely available in order that the conversion of fuel-burning appliances will be the most suitable for particular conditions. Fourthly, patient explanation must be given to demonstrate that efficiency and economy go hand in hand and that smoke, besides being a nuisance, is in itself a waste of expensive fuel. There are other serious difficulties in relation to industrial operations, but none of them is insurmountable.

The results in Coventry and Manchester have been most satisfactory. Dr. Metcalfe Brown,<sup>1</sup> medical officer of health for Manchester, has been so impressed with the success of the first year's operation of the central zone that he has already recommended an extension marginally of the zone. The city council has approved, and, subject to the consent of the Ministry, the existing zone will be increased to 235 acres in extent on October 1, 1954. There is still plenty of Manchester left to be made smokeless in due course.

Manchester is the nucleus of a congested industrial conurbation of nearly 3,000,000 people. At first sight, to create a smokeless zone of a mere 105 acres in the centre of such a mass of smoke-producing

premises would appear to be a somewhat naive and quixotic gesture, with little hope of practical effect. But that effect has been achieved. The centre of Manchester is already clearer; there is a host of smokeless chimneys; the haze of smoke outside the zone contrasts markedly with the absence of visible smoke within the zone. The Press has commented favourably on "the hole in the fog." Business houses within the zone have written to the newspapers expressing appreciation of the results; commercial firms outside the zone have asked for extensions to include their premises; public opinion is strongly in favour.

At the annual conference of the National Smoke Abatement Society, which was held at Glasgow on September 30 to October 2, Dr. T. Morrison Clayton, medical officer of health for Coventry, referred to four categories of actual or potential smokeless zones. These were (1) industrial areas with heavy atmospheric pollution; (2) industrial areas with moderate pollution where redevelopment is planned; (3) residential areas in process of development; and (4) the environs of airports. Category (1) areas can be dealt with only by statutory legislation; areas in categories (2) and (3) and possibly (4) can be dealt with in the absence of special powers, for a planning or housing authority can usually apply conditions in relation to new buildings which would be difficult or undesirable to apply to existing buildings. Wade<sup>2</sup> has discussed the smokeless housing estate now in process of development by the Nottingham City Council—an excellent example of a residential area being developed (category 3). This scheme when completed will provide some 5,500 houses, 1,650 of which are already occupied. Each tenancy has a condition that no smoke will be emitted from the house and that all appliances using any solid fuel shall be fired by smokeless fuel. This is the largest smokeless area in this country. Coventry, Manchester, and Nottingham together have shown that smokelessness can be attained both at the centre and at the periphery of industrial centres.

Reduction of atmospheric pollution needs the support of the medical profession. There is a mass of evidence on the relationship between smoke and ill-health; for example, Goodman, Lane, and Rampling<sup>3</sup> state, "There is no doubt at all that smoke associated with fog has a serious effect on the elderly and the chronic bronchitic in precipitating a mortal bronchopneumonia." Their data on chronic bronchitis demonstrate that the death rates from bronchitis in men aged 45–54 are highest in the regions of Newcastle, West Riding of Yorkshire, Liverpool, South-east Lancashire, and Birmingham. It is not a mere

coincidence that the atmosphere of these regions is heavily polluted. The presence of benzpyrene in city air has been reported by Waller<sup>4</sup> and Doll,<sup>5</sup> and by Clemo<sup>6</sup> at a recent meeting of the British Association. The need for reducing the smoke menace is emphatic and clear.

### THE RETURNED PRISONER OF WAR

The family doctor, consulted by a repatriated prisoner of war, may find that experiences during internment have had deep psychological as well as physical effects, and that the former are likely to be of special importance during the period of resettlement. The Serviceman never expects capture, and the violent change, affecting every detail of his life, strains all his bodily and mental resources. He is extremely depressed on capture. Weary, hungry, and longing for rest and security, he may be treated harshly and cruelly. The daily routine in which he had an established status has vanished. The customary habits are interrupted, and his individuality is lost. He is just one more prisoner, and his survival is of no interest to his captors. But this stage soon passes. He acquires new habits of life, accepts the grim situation, hopeful that somehow he will find means of escape. The group life of the camp, the irritations, the short tempers, the hard conditions, the monotonous and often insufficient food, the indefinite nature of his internment, are offset by efforts to score off his captors, to outwit them, and by a growing comradeship. The circumstances of his past life become idealized, and he pictures the future in rosy colours. Captivity, anyhow, will not last for ever; when he gets home he will live as he has never lived before. These dreams of the future are a necessary and valuable compensation.

Many soldiers, particularly professionals, experience a sense of guilt on capture. The notion that he may be regarded as an unheroic figure, since he is no longer fighting, can lead the prisoner to expect a loss of caste in the eyes of those at home. Men captured after a tough fight and when every round of ammunition has been fired are free of this thought. The feeling of guilt is always intensified by thoughtless letters from home criticizing the prisoner for his capture and mentioning his newly found safety.

Some of these returned prisoners at the difficult period of repatriation are now seeking their doctors' help. In the excitement of returning to his family, and with the prospect of realizing his dreams, the repatriated man has probably forgotten the inevitable changes that time has worked in his home and his friends. His family have been forced to deal successfully with life without him. His children or his

brothers and sisters have developed new interests. Should his wife have left him, he faces a catastrophic situation. The gulf between fantasy and fact is often extremely painful. The limited imagination of his family fails to picture the utterly different life he has led and is unequal to the strain of surrounding the returning soldier with sufficient sympathy. When the early days of home-coming have passed, the Serviceman may get the impression that in some way he has failed. The thought of personal guilt is repressed, becomes unconscious, and is projected. Then there come scathing remarks about politicians, employers, and those who in the security of home have become prosperous. The returned prisoner often has difficulty in resuming the daily financial responsibilities from which he was for a time free. In addition, his working skills may be impaired. In this atmosphere he may become aggressive, apathetic, or depressed, and perhaps alcoholic. Some even drift into crime as offering more excitement and a short cut to affluence. The problem of housing often intensifies the depression and resentment. Psychoneurotic symptoms—a fear of confined spaces, of crowds, of social occasions—may appear, and a tendency to exaggerate physical symptoms.

The doctor does not see those who grapple successfully with their difficulties. But the wise course with the man who consults him is to attend to his physical ailments and assure him at the same time that he is a normal person whose difficulties are in large measure due to the problem of resettlement. If the patient is unresponsive to simple measures, if he remains tense and maladjusted and suffers from insomnia, it is wise to call in a psychiatrist. Every man who has been a prisoner, even for six months, will be affected by it to some degree, and those who have been interned for two years or more will suffer more severely and their resettlement will be correspondingly difficult. Prisoners in Japanese camps during the second world war, and some in Korea, were always hungry. Food became the chief topic of conversation in prison camps and prison hospitals. Hunger overshadowed other instinctive tendencies, and sexual thoughts and activities faded. Abdominal symptoms are often mentioned by such prisoners on repatriation; they are concerned about bowel movements, and complain of vague abdominal pains. Digestive troubles are to be expected with the change of diet—for example, from rice to Service rations. Extreme cold was common in Korea, but usually the staple diet of Indian corn, although lacking in variety, was adequate. Considerations of this kind should be taken into account and a straightforward explanation of the symptoms given with firm reassurance that with